

CLAIMS

What is claimed is:

1 1. A drive roller assembly for a mobile robot,
2 comprising:
3 a drive ball;
4 a transmission roller that is in continuous contact
5 with said drive ball; and,
6 a drive mechanism coupled to said transmission roller.

1 2. The assembly of claim 1, wherein said drive
2 mechanism includes a motor.

1 3. The assembly of claim 1, wherein said transmission
2 roller is attached to a bracket.

1 4. The assembly of claim 3, wherein said bracket has
2 a groove in an outside surface that allows a portion of
3 said transmission roller to make contact with said drive
4 ball.

1 5. The assembly of claim 3, wherein said drive
2 mechanism includes a pulley that is coupled to a motor and
3 said bracket.

1 6. The assembly of claim 1, wherein said transmission
2 roller includes an addendum roller attached to a primary
3 roller.

1 7. A drive roller assembly for a mobile robot,
2 comprising:
3 a drive ball;
4 a transmission roller that is in continuous contact
5 with said drive ball; and,
6 drive means for rotating said transmission roller and
7 driving said drive ball.

1 8. The assembly of claim 7, wherein said drive means
2 includes a motor.

1 9. The assembly of claim 7, wherein said transmission
2 roller is attached to a bracket.

1 10. The assembly of claim 9, wherein said bracket has
2 a groove in an outside surface that allows a portion of
3 said transmission roller to make contact with said drive
4 ball.

1 11. The assembly of claim 9, wherein said drive means
2 includes a pulley that is coupled to a motor and said
3 bracket.

1 12. The assembly of claim 7, wherein said transmission
2 roller includes an addendum roller attached to a primary
3 roller.

1 13. A method for operating a roller assembly for a
2 mobile robot, comprising:

3 rotating a transmission roller that is in continuous
4 contact with a drive ball to rotate the drive ball.

1 14. A mobile robot, comprising:

2 a first drive roller assembly that includes;

3 a drive ball;

4 a transmission roller that is in continuous
5 contact with said drive ball;
6 a drive mechanism coupled to said transmission
7 roller;
8 a pedestal coupled to said first drive roller assembly;
9 a camera coupled to said pedestal; and,
10 a screen coupled to said pedestal.

1 15. The robot of claim 14, wherein said drive
2 mechanism includes a motor.

1 16. The robot of claim 14, wherein said transmission
2 roller is attached to a bracket.

1 17. The robot of claim 16, wherein said bracket has a
2 groove in an outside surface that allows a portion of said
3 transmission roller to make contact with said drive ball.

1 18. The robot of claim 16, wherein said drive
2 mechanism includes a pulley that is coupled to a motor and
3 said bracket.

1 19. The robot of claim 14, wherein said transmission
2 roller includes an addendum roller attached to a primary
3 roller.

1 20. The robot of claim 14, further comprising a second
2 drive roller assembly and a third drive roller assembly.

1 21. The robot of claim 14, wherein said pedestal
2 includes a pivot drive mechanism that is coupled to said
3 camera and said screen, and a swivel drive mechanism that
4 is coupled to said camera and said screen.

1 22. A mobile robot, comprising:
2 a first drive roller assembly that includes;
3 a drive ball;
4 a transmission roller that is in continuous
5 contact with said drive ball;
6 drive means for rotating said transmission roller
7 and driving said drive ball;
8 a pedestal coupled to said first drive roller assembly;
9 a camera coupled to said pedestal; and,
10 a screen coupled to said pedestal.

1 23. The robot of claim 22, wherein said drive means
2 includes a motor.

1 24. The robot of claim 22, wherein said transmission
2 roller is attached to a bracket.

1 25. The robot of claim 24, wherein said bracket has a
2 groove in an outside surface that allows a portion of said
3 transmission roller to make contact with said drive ball.

1 26. The robot of claim 24, wherein said drive means
2 includes a pulley that is coupled to a motor and said
3 bracket.

1 27. The robot of claim 22, wherein said transmission
2 roller includes an addendum roller attached to a primary
3 roller.

1 28. The robot of claim 22, further comprising a second
2 drive roller assembly and a third drive roller assembly.

1 29. The robot of claim 22, wherein said pedestal
2 includes pivot means for pivoting said camera and said

3 screen, and swivel means for swiveling said camera and said
4 screen.

1 30.. A method for operating a mobile robot, comprising:
2 generating an output signal to move a robot;
3 rotating a transmission roller that is in continuous
4 contact with a drive ball to rotate the drive ball in
5 response to the output signal.

1 31. The method of claim 30, further comprising
2 swiveling a camera and a screen of the robot and pivoting
3 the camera and the screen.

4 32. A drive roller assembly for a mobile robot that
5 moves across a surface, comprising:

6 a roller that is in continuous contact with the
7 surface;

8 a bracket coupled to said roller; and,

9 a drive mechanism coupled to said bracket.

1 33. The assembly of claim 32, wherein said drive
2 mechanism includes a motor.

1 34. The assembly of claim 32, wherein said bracket has
2 a groove in an outside surface that allows a portion of
3 said roller to make contact with the surface.

1 35. The assembly of claim 32, wherein said drive
2 mechanism includes a pulley that is coupled to a motor and
3 said bracket.

1 36. The assembly of claim 32, wherein said roller
2 includes an addendum roller attached to a primary roller.

1 37. A drive roller assembly for a mobile robot that
2 moves across a surface, comprising:

3 a roller that is in continuous contact with the
4 surface;

5 a bracket coupled to said roller; and,

6 drive means for rotating said bracket and said
7 transmission roller.

1 38. The assembly of claim 37, wherein said drive means
2 includes a motor.

1 39. The assembly of claim 37, wherein said bracket has
2 a groove in an outside surface that allows a portion of
3 said transmission roller to make contact with the surface.

1 40. The assembly of claim 37, wherein said drive means
2 includes a pulley that is coupled to a motor and said
3 bracket.

1 41. The assembly of claim 37, wherein said
2 transmission roller includes an addendum roller attached to
3 a primary roller.

1 42. A method for operating a drive roller assembly for
2 a mobile robot that moves across a surface, comprising:
3 rotating a roller that is supported by a bracket, and
4 is in continuous contact with the surface.